

**ENGINEERING EVALUATION
CYPRESS HOTEL; PLANT 14562
APPLICATION 7195**

BACKGROUND

Cypress Hotel has applied for a permit for a new diesel-fueled engine used to power a standby generator (S-1). The first application for this project, Application 5604, was cancelled for failure to pay fees to complete the application. This application was initiated when permit fees were paid, especially the initial minimum fees for a public notice. The data forms, risk screen analysis and other information in Application 5604 have been transferred to this application. This engine will be on site on or after September 1, 2001. Hence, the engine requires an authority to construct. S-1 is subject to New Source Review requirements (BACT, cumulative increase, offsets, public notification requirements triggered by proximity to a K-12 school, and toxic review.)

In accordance with District Regulation 9-8 and the Risk Management Policy, the operation of the S-1 engine will be limited to the lesser of requested operation, no more than 100 hr/yr for reliability-related operation (maintenance and testing) and a reliability-related operating allowance which results in an incremental cancer risk of no more than 1 in a million or 10 in a million if engine PM10 emissions are less than 0.15 grams per brake-horsepower hour. The operation of S-1 to provide power during emergencies will not be limited.

EMISSIONS

The engine permitted under this application is considered a new source. Consequently, there is a cumulative emission increase associated with this permit application. The cumulative increase, except for sulfur dioxide, is calculated using the attached Excel spreadsheet(s) using the CARB certified ISO 8178 D2 Cycle emission factor limits times the maximum horsepower output for the engine times 100 hours of allowable operation per year for reliability-related operation divided by 907,200 grams per ton. The emissions of sulfur dioxide were calculated assuming the fuel contains 0.05% sulfur by weight. The cumulative increase is summarized below:

Cumulative Increase

NOX = 576 lb/yr = 0.288 tpy
CO = 158 lb/yr = 0.079 tpy
HC = 182 lb/yr = 0.091 tpy
PM10 = 9.8 lb/yr = 0.005 tpy
SO2 = 18 lb/yr = 0.009 tpy

TOXIC RISK SCREENING ANALYSIS

As discussed on page 1 (Background), S-1 **is** subject to the District Risk Management Policy for Diesel-Fueled Engines. For 100 hours of reliability-related operation, the incremental cancer risk is 2.6 in a million, which satisfies the risk

management policy since the diesel PM emission factor is less than 0.15 grams per brake-horsepower-hour.

STATEMENT OF COMPLIANCE

An emergency standby engine is not subject to NOx and CO standards in Regulation 9, Rule 8 but is subject to Sections 330 and 530 limiting reliability-related activities and requiring a non-resettable totalizing meter and a monthly log of usage. These limits are included as permit conditions. S-1 is subject to the SO2 limitations of 9-1-301 (ground-level concentration) and 9-1-304 (0.5% by weight in fuel). Compliance with both of these requirements is very likely since diesel fuel with a 0.05% by weight sulfur is mandated for use in California. Like all sources, S-1 is subject to Regulation 6 ("Particulate and Visible Emissions"). This engine is not expected to produce visible emissions or fallout in violation of this regulation and will be assumed to be in compliance with Regulation 6 pending a regular inspection.

The project is considered to be ministerial under the District's CEQA Regulation 2-1-311 because it is evaluated in accordance with Chapter 2.3 of the Permit Handbook and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emission factors and therefore is not discretionary as defined by CEQA.

The project is less than 1000 feet from the nearest school, Saint Joseph of Cupertino Elementary School and is therefore subject to the public notification requirements of Regulation 2-1-412. A public notice was mailed on TO BE DETERMINED. SUMMARY OF COMMENTS RECEIVED AND RESPONSES TO BE DETERMINED.

As discussed on page 1 (Background), S-1 complies with the District Risk Management Policy for diesel-fueled engines.

PSD, NSPS and NESHAPS are not applicable to this source.

BACT and Offsets

Total facility emissions, including this project, will be less than 15 tons per year of POC and NOx. Therefore, offsets are not required per Offset Requirements (2-2-302).

S-1 is subject to BACT for NOx, CO and POC. The current BACT for NOx is 6.9 g/hp-hr and the EPA-certified NOx plus POC emission of 4.749 g/hp-hr satisfies BACT. The current BACT for CO is 2.75 g/hp-hr and the EPA-certified CO emission of 1.3 g/hp-hr satisfies BACT. The current BACT for POC is 1.5 g/hp-hr and the EPA-certified NOx plus POC emission of 4.749 g/hp-hr is presumed to result in a POC emission factor of less than 1.5 g/hp-hr.

PERMIT CONDITIONS

See attached standard permit condition number 19533.

RECOMMENDATION

Issue Authority to Construct to Cypress Hotel for:

S-1 Emergency Generator, 350 kW, Spectrum 350 DSE w/Detroit
Diesel S60 Diesel Engine, 550 HP

By:

Donald P. Van Buren, PE
Air Quality Engineer II

COND# 19533 -----

CONDITIONS FOR NON "ESSENTIAL" EMERGENCY ENGINES:

Stationary Equipment Requirements

1. Hours of Operation: The owner/operator shall operate the emergency standby engine(s) only to mitigate emergency conditions or for reliability-related activities. Operating while mitigating emergency conditions is unlimited. Operating for reliability-related activities is limited to 100 hours per any calendar year. [Basis: Regulation 9-8-330]

"Emergency Conditions" is defined as any of the following:

- a. Loss of regular natural gas supply.
- b. Failure of regular electric power supply.
- c. Flood mitigation.
- d. Sewage overflow mitigation.
- e. Fire.
- f. Failure of a primary motor, but only for such time as needed to repair or replace the primary motor.

[Basis: Regulation 9-8-231]

"Reliability-related activities" is defined as any of the following:

- a. Operation of an emergency standby engine to test its ability to perform for an emergency use, or
- b. Operation of an emergency standby engine during maintenance of a primary motor.

[Basis: Regulation 9-8-232]

2. The owner/operator shall equip the emergency standby engine(s) with either:

- a. a non-resettable totalizing meter that measures the hours of operation for the engine; or
- b. a non-resettable fuel usage meter, the maximum hourly fuel rate shall be used to convert fuel usage to hours of operation.

[Basis: Regulation 9-8-530]

3. Records: The owner/operator shall maintain the following monthly records in a District-approved log for at least 2 years and shall make the log available for District inspection upon request:

- a. Hours of operation (total).
- b. Hours of operation (emergency).
- c. For each emergency, the nature of the emergency condition.
- d. Fuel usage for engine(s) if a non-resettable fuel usage meter is utilized.

[Basis: Regulations 9-8-530 and 1-441]